

Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

Philadelphia, 22 July 1880.

Sir,

I have examined the drawing of Mr A. E. Griffiths' apparatus, designed to condense particles of the precious metals, from the flues of the furnaces, where they are melted, in order to economise loss by volatilization, or by transvection of particles.

The principle involved in it is collecting the particles passing off in the flues by drawing ^{whole products of} ~~them with a~~ ^{combustion} fan off with a revolving fan into an atmosphere charged with a descending spray of water, and then discharging them again ~~into~~ ^{onto} the flue at a greater height. The principle is not new, for such a proposition was made a year or two since, but I think that the apparatus of Mr Griffiths promises better results than that one.

Nothing less than direct trial can absolutely

determine the practicability of the arrangement, and if space can be found for it, without interfering with the essential needs of the Government, I would be disposed to allow it to be tried, being desirous of economising waste as far as possible.

If I may express an opinion on the merits of the apparatus, I would say that when applied to lower temperatures I believe it would be, and is, successful. But when applied to the large volume of air passing through our flues at a red heat, I think it likely that a large portion of water will be raised in steam, which must escape condensation, & if it should, it would fail to collect the transmuted particles of the precious metals.

Very Respectfully
J. C. Booth

Dr J. L. Le Conte
Chief Clerk

MVR

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Mint of the United States at Philadelphia,

MELTING AND REFINING DEPARTMENT,

July 22, 1880.

Jas. C. Booth
Melter and Refiner.

Report on Mr. A.
E. Griffith's appa-
ratus to save dol-
lарized bullion in
the flues etc.

No. of Enclosures,

Rec'd July 22nd 1880.

[Abstract:] Report on Mr. A.E. Griffith's apparatus to save volatilized bullion in the flues &c.
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Melting and Refining Department,
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The principle involved in it is collecting the particles passing off in the flues by drawing the whole products of combustion off with a revolving fan into an atmosphere charged with a descending spray of water, and then discharging them again into the flue at a greater height. The principle is not new, for such a proposition was made a year or two since, but I think that the apparatus of Mr. Griffith's promises better results than that one.

Nothing less than direct trial can absolutely determine the practicability of the arrangement, and if space can be found for it, without interfering with the essential needs of the Government, I would be disposed to allow it to be tried, being desirous of economizing wastage as far as possible.

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M & R

Dr. J.L. Le Conte
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